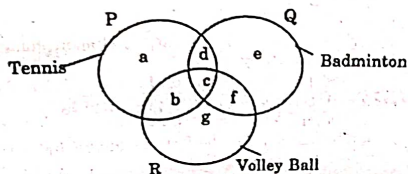


6. A child is looking for his father. He went 90 metres in the east before turning to his right. He went 20 metres before turning to his right again to look for his father at his uncle's place 30 metres from this point. His father was not there. From there, he went 100 metres to his north before meeting his father in a street. How far did the son meet his father from starting point?
7. The figure given below consists of three intersecting circles which represents sets of students who play Tennis, Badminton and Volley Ball. Each region in the figure is represented by a small letter.



- On the basis of the above figure, answer the questions given below:
- Which letter represents the set of persons who play all the three games?
 - Which letter represents the set of persons who play Tennis and Volley Ball but not Badminton?
 - Which letter represents the set of persons who play Tennis but neither Badminton nor Volley Ball?
 - Which letter represents the set of persons who play Tennis and Badminton but not Volley Ball?
8. Read the following information carefully and answer the questions given below it :
- There are five friends.
 - They are standing in a row facing South.
 - Jayesh is to the immediate right of Alok.
 - Pramod is between Bhagat and Subodh.
 - Subodh is between Jayesh and Pramod.
 - Who is at the extreme left end?
 - Who is in the middle?
- ==END OF PAPER==

BACHELOR OF VOCATION
Public Services
Subject: Mathematics and Reasoning-I
Subject Code: MAR-501
Semester: First
February 2022
Theory (External): 70 Marks
Time: 03 Hours

Instructions to the Students

- This Question paper consists of two Sections. All sections are compulsory.
- Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 2 marks.
- Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 10 marks.
- Read the questions carefully and write the answers in the answer sheets provided.
- Do not write anything on the question paper.
- Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION A (SHORT/OBJECTIVE TYPE QUESTIONS)
(10 x 2 = 20 Marks)

- A. The sum of the squares of two consecutive even numbers is 6500. Which is the smaller numbers?
(a) 54 (c) 48
(b) 52 (d) 56
- B. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?
(a) 4 years (c) 8 years
(b) 6 years (d) 10 years
- C. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is
(a) 15 (c) 18
(b) 16 (d) 25
- D. A swimmer's speed downstream is 11 km/h and speed of the stream is 1.5 km/h. Find the upstream speed of swimmer
(a) 8 km/h (c) 9 km/h
(b) 9.5 km/h (d) 6.25 km/h
- E. Pooja purchased a car for Rs. 2,50,000 and sold it for Rs. 3,48,000. What is the percent profit she
(a) 40% (c) 38.4%
(b) 39.2% (d) 38%
- F. Find the LCM of 12 and 18,
(a) 30 (c) 18
(b) 36 (d) 42
- G. $1767 = ? \times 57$
(a) 27 (c) 39
(b) 31 (d) 37

- H. If $D=4$ and $COVER=63$, then $BASIS=?$
(a) 49 (c) 54
(b) 50 (d) 55
- I. In a certain language, CAP is coded as 61, how will PEN be coded
(a) 40 (c) 80
(b) 66 (d) 46
- J. The sum of first 10th terms of A.P. $-11, -8, -5, \dots$?
(a) 23 (c) 20
(b) 25 (d) 27

SECTION B (ESSAY TYPE QUESTIONS)
(5 X 10 = 50 Marks)

- A traffic lights at three different road crossings after every 24 seconds, 36 seconds and 54 seconds, respectively. If they all change simultaneously at 9:15 hours, then at what time will they again change simultaneously?
- Square of difference between two numbers is 9 while the sum of squares of those two numbers is 225. What is their product?
- Rs. 8400 is divided among A, B, C and D in such a way that the shares of A and B , B and C , and C and D are in the ratios of 2:3, 4:5 and 6:7, respectively. Then, find share of A .
- Pradeep sells 40 fans at 10% profit. He wants a total of 20% profit on the entire sale. Since he got 160 fans at rate of Rs. 100 each, at what profit must he sell the remaining fans?
- What will be the interest earned on sum of Rs. 6400 kept for 6 months at 25% interest rate compounded quarterly?